

I claim:

1. A tunable, reconfigurable optical add/drop multiplexer comprising:

(a) a first signal routing component; and

(b) at least one wavelength selective switch device having an input port and an output port, said input port being optically coupled to said first signal routing component, said wavelength signal selective switch being wavelength tunable, so as to allow a selected wavelength to be routed to said first signal routing component and the rest of the wavelengths to be routed to said output port.

2. The tunable, reconfigurable optical add/ drop multiplexer of claim 1 wherein said selected wavelength is reflected towards said first signal routing component.

3. The tunable, reconfigurable optical add/ drop multiplexer of claim 1 wherein first signal routing component is a circulator.

4. A reconfigurable optical add/drop multiplexer according to claim 1, further comprising a second signal routing component coupled to said output port.

5. The tunable, reconfigurable optical add/drop multiplexer according to claim 1, wherein second signal routing component is adapted to route an additional selected wavelength signal to said selective switch device through said output port.

6. The tunable, reconfigurable optical add/drop multiplexer according to claim 1, wherein said first signal routing component is an optical circulator.

7. A reconfigurable optical add/drop multiplexer according to claim 1, wherein said second signal routing component is an optical circulator.

8. The tunable, reconfigurable optical add/ drop multiplexer according to claim 1 wherein said wavelength selective switch device includes a wavelength tunable grating.

9. A wavelength tunable switching device comprising:

(a) an input port and an output port;

(b) a first optical waveguide;

(c) a second optical waveguide, said second optical waveguide having a wavelength tunable, wavelength selectable optical component;

(d) a first switch selectively coupled to said first or said second optical waveguide for coupling signal light from said input port into one or another of said waveguides; and

(e) a second switch selectively coupled to said first or said second optical waveguide for coupling said signal light from one of said first and second optical waveguides into said output port.

10. The switching device according to claim 9, wherein said first and second optical waveguides are optical fibers.

11. The switching device according to claim 9, wherein said wavelength tunable, wavelength selectable optical component is a Bragg grating.

12. The switching device according to claim 9, wherein said first switch is a 2x2 switch.

13. The switching device according to claim 9, wherein said second switch is a 2x2 switch.

14. The switching device according to claim 9, further comprising:

- (a) a wavelength selector; and
- (b) a wavelength switch actuator.

15. The switching device according to claim 14, wherein said actuator is a heater.

16. The switching device according to claim 14, wherein said actuator is a tension actuator.

17. The switching device according to claim 14, wherein said actuator is a compression actuator.

18. A method of switching optical signals, said method comprising the steps of:

- (a) switching the switching device to a pass through state;
- (b) tuning a wavelength selective optical component to act on a specific signal wavelength; and

- (c) switching the switching device to operate in a drop/ add state.

19. The method according to claim 18, wherein said tuning is actuated through heating, compression, or tensioning.

Year	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	